Equine Infectious Anemia (Swamp Fever)

T. Sendel

Factsheet

ORDER NO. 10-083 AGDEX 460/663 NOVEMBER 2010
(replaces OMAFRA Factsheet 89-114 *Equine Infectious Anemia (Swamp Fever)*)

GENERAL DESCRIPTION

Equine infectious anemia (EIA), also known as swamp fever, is a potentially fatal disease caused by a virus that can infect all types of equines, including horses, mules, zebras and donkeys. In most cases, the disease begins with an acute phase of illness, followed by chronic cyclical symptoms, which continue throughout the remainder of the horse's life. Some horses do not show any symptoms but can still be a source of infection for other animals. EIA occurs throughout Ontario and is an ongoing concern for horse owners in the province.

HOW IT SPREADS

EIA is often spread from the blood of an infected horse to a susceptible horse by a vector such as an insect or an infected syringe, needle or piece of surgical equipment. It is also spread through infected blood products, during breeding from an infected stallion to the mare, and by crossing the placental barrier from a pregnant mare to its fetus.

Insect Vectors

The EIA virus is transmitted from one horse to another by bloodsucking horse flies, deer flies, stable flies, mosquitoes and possibly midges. When insects begin feeding on an infected horse and are interrupted in their feeding, they can transfer the virus during a subsequent feeding on a susceptible horse. Feedings must occur within 30 minutes. Horse fly feeding is frequently interrupted because the horse fly's large size and noisy flight attract attention and their cutting/slashing mouthparts inflict considerable pain, causing the horse to move and the fly to switch to another horse.

Placental Transmission

The virus can cross the placental barrier and cause fetal infection. Mares with acute EIA symptoms during pregnancy run the greatest risk of infecting the fetus. Infected fetuses are often aborted but when borne live they often die within 2 months.

SIGNS AND SYMPTOMS

Acute

Following the first exposure to the virus, the infected animal may experience fever and hemorrhaging for 7–30 days. During this time, approximately one-third of infected horses will die. Following the initial acute stage of illness, those that survive may appear to return to health and then go on to experience cyclical relapses that are less severe, every 2–3 weeks.

Chronic

Chronic symptoms that may occur continually during the course of the disease include:

- loss of co-ordination
- loss of appetite
- frequent urination
- diarrhea
- weakness
- paralysis of the hindquarters
- paleness of the mucous membranes
- yellowish discoloration of the conjunctiva
- small hemorrhages beneath the tongue and eye
- rapid breathing and accelerated pulse
- abortion in pregnant mares

The onset of these signs is often associated with stresses such as hard work, hot weather, racing, pregnancy or use of steroid drugs.

Asymptomatic Carriers

On occasion, an apparently healthy horse may carry the virus but never exhibit any symptoms of the disease. This horse is referred to as a carrier animal and is a constant source of infection.

Ministry of Agriculture, Food and Rural Affairs

Ontario

DIAGNOSIS

Tentative diagnosis of the disease may be made based on observation of signs and symptoms. However, confirmation by blood test (generally an ELISA, sometimes a Coggins test) is required, particularly in the case of carriers that do not exhibit any symptoms.

TREATMENT AND PREVENTION

To date, there is neither known treatment nor a satisfactory vaccine for EIA, partly because the virus is able to change over time. The key to prevention is the identification and control of infected horses.

To reduce the risk of infection and spread of the disease:

- Isolate new horses until they have been tested for EIA.
- Comply with horse industry testing and certificate requirements for racetracks, events, sales and boarding stables.
- Use disposable needles and syringes.
- Use strict hygiene practices.
- Have an insect control program for your stable and property.
- Do not breed EIA-positive horses.
- Tell your veterinarian about any clinical signs of EIA that you notice.
- Report suspected cases to the Canadian Food Inspection Agency immediately.
- Clean and sterilize the stable, including any potential contact surfaces, if the disease has been in your facility.

DISTRIBUTION

Equine infectious anemia (EIA) has been diagnosed all over the world. However, the actual number of infected animals in any particular geographic area will depend on several factors:

- density of the equine population
- proportion of carrier animals
- density of insect vectors
- implementation of control measures

CONTROL MEASURES IN CANADA

- To conduct EIA testing in Canada, a veterinarian must be federally accredited and send samples only to Canadian Food Inspection Agency (CFIA)-approved labs.
- It is required by law that all suspected cases of EIA be immediately reported to the Canadian Food Inspection Agency (CFIA), which investigates all reported cases. In Ontario, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) may at times provide assistance with the response.
- If a horse is confirmed to have EIA, it may either be placed under a permanent CFIA quarantine (if it doesn't have any symptoms) or ordered destroyed with paid compensation.
- The CFIA also requires mandatory testing of imported horses and has strict regulations on import of animals and animal products.

FOR MORE INFORMATION

Contact the Canadian Food Inspection Agency:

- Website: www.inspection.gc.ca/english/anima/disemala/equianem/equianeme.shtml
- CFIA Offices:
  - See the blue pages of your telephone directory
  - Go to www.inspection.gc.ca/english/directory/offbure.shtml

REFERENCES

Equine Infectious Anemia – Test and Reactor Reports. CFIA
http://www.inspection.gc.ca/english/anima/disemala/equianem/teste.shtml Accessed November 8, 2010

Equine Infectious Anemia Disease Information. USDA – Animal Health
www.aphis.usda.gov/animal_health/animal_diseases/eia/web-mapping.shtml Accessed July 27, 2010

Equine Infectious Anaemia (EIA) – The Canadian EIA control program. CFIA
www.inspection.gc.ca/english/anima/disemala/equianem/equianem-proge.shtml Accessed July 27, 2010

Updates to this Factsheet were coordinated by Tania Sendel, Veterinary Science and Policy Unit, OMAFRA, Guelph. The original Factsheet was authored by Dr. Bob Wright, Veterinarian-Disease Prevention Equine and Alternate Species, OMAFRA, retired.

FOR YOUR NOTES

Agricultural Information Contact Centre:
1-877-424-1300
E-mail: ag.info.omafra@ontario.ca
Northern Ontario Regional Office:
1-800-461-6132

www.ontario.ca/omafra

POD
ISSN 1198-712X
Également disponible en français
(Commande n° 10-084)